

U.S. Patent Application Serial No. **10/015,564**
Response filed March 11, 2005
Reply to OA dated December 14, 2004

REMARKS

Claims 24-58 are pending in this application. No amendment is made in this Response. It is believed that this Response is fully responsive to the Office Action dated **December 14, 2004**.

Claims 24-42 and 47-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of copending Application No. 10/488,684. Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons as set forth below.

The rejection is obviated by the filing of a terminal disclaimer over copending application no. 10/488,684. The terminal disclaimer papers accompany this response.

Claims 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (3,683,044) in view of Nishimura et al. (5,356,961).

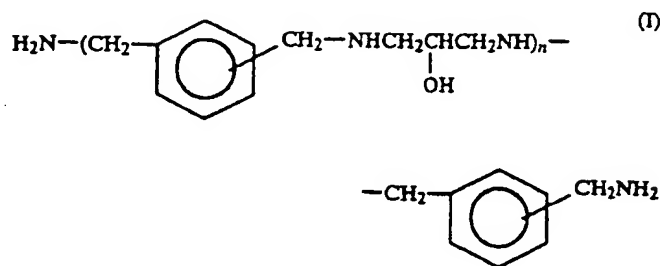
The rejection of claims 24-30 is respectfully traversed, and reconsideration of the rejection is respectfully requested.

Huang et al. discloses a composition for coating comprising an epoxy resin and an amine curing agent wherein the epoxy resin is an epoxy with a glycidylamine moiety derived from metaxylylenediamine. However, Huang et al. does not disclose an amine curing agent that is a

reaction product of metaxylylenediamine and a polyfunctional compound having at least one acyl group.

Nishimura et al. discloses species of epoxy resin that can be used in Nishimura's invention, in col. 2, line 64 to col. 3, line 4. However, Nishimura et al. does not disclose use of an epoxy resin with a glycidylamine moiety derived from metaxylylenediamine.

Nishimura et al. discloses an aqueous epoxy resin composition which comprises an epoxy resin; an amidoamine obtained by the reaction of a carboxylic acid with a polyamine compound represented by the general formula (I):



wherein n is an integer of 0 or 1 or greater indicating the number of the repeating units which compound is obtained by the reaction of epichlorohydrin with xylylenediamine; and water.

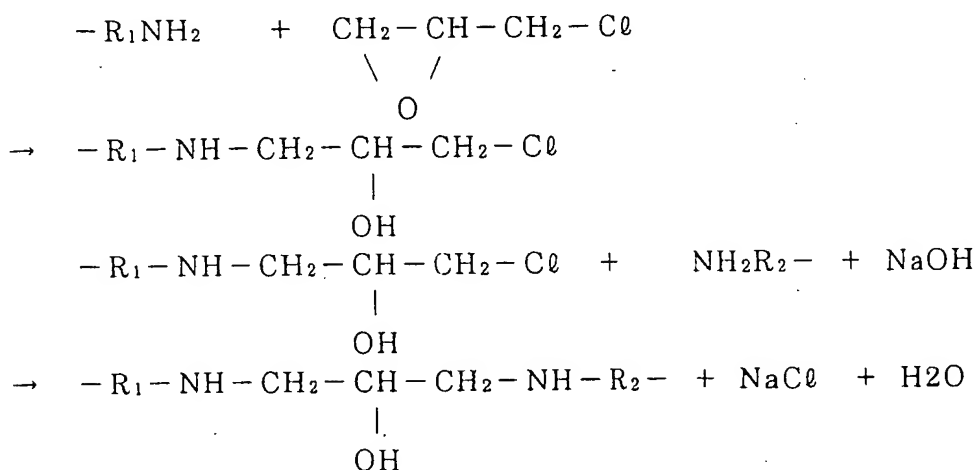
In the case of $n=0$, the polyamine compound of formula (I) is xylylenediamine in which no reaction with epichlorohydrin is performed. Therefore, the case of $n=0$ is actually contradictory to the recitation "which compound is obtained by the reaction of epichlorohydrin with xylylenediamine". It is not clear whether in the case of $n=0$, the polyamine compound contains unreacted epichlorohydrin in addition to xylylenediamine.

On the other hand, Nishimura et al. discloses producing the amidoamine which functions as the curing agent in the composition of Nishimura et al. by the following process: "The amidoamine which **functions as the curing agent** in the composition according to the present invention is obtained by reacting epichlorohydrin with stoichiometrically excess xylylenediamine in the presence of an alkali to produce a polyamine compound represented by the above-mentioned general formula (I) and subsequently reacting the resultant polyamine compound with a carboxylic acid" (col. 3, lines 5 to 12, emphasis added).

The following conclusions can be drawn from the above description:

(1) It is clear that the polyamine which functions as the curing agent is obtained **by reacting** epichlorohydrin, xylylenediamine and alkali.

(2) In this reaction alkali (e.g., sodium hydroxide) reacts as follows:



Thus, alkali is also a reactant in this reaction.

(3) The recitation “stoichiometrically excess xylylenediamine” means use of xylylenediamine in stoichiometric excess to epichlorohydrin.

Thus, it is clear that epichlorohydrin is used.

Further, Nishimura et al. describes that in the case where xylylenediamine is m-xylylenediamine, it becomes a **preferred** polyamine represented by the general formula (II) and the preferred xylylenediamine is m-xylylenemiamine (col. 3, lines 14 to 27).

This means that in the case where the xylylenediamine is m-xylylenediamine, the polyamine represented by the general formula (II) obtained by reacting epichlorohydrin, stoichiometrically excess m-xylylenediamine and alkali, as described above, is preferable. The composition comprising the combination of the epoxy resin disclosed in col. 2, line 64, to col. 3, line 4, and the amidoamine as a curing agent obtained by reacting a preferred polyamine represented by the general formula (II) and a carboxylic acid produces a cured coating with good external appearance and excellent pencil hardness and adhesivity to steel plate (col. 4, lines 8 to 16).

The object of the present invention is to provide a composition for coating having a high gas barrier property to be used as packaging materials for food and medicine etc. The evaluation method of the gas barrier property and evaluation results of the gas barrier property for the composition of the present invention are described in detail in the Examples and Comparative Examples of the present specification (pages 29 to 57).

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Neither Huang et al. nor Nishimura teaches the concept of the present invention in which a composition for coating with a high gas barrier property can be obtained by providing the claimed composition of the present invention.

Therefore, there is no motivation for one of ordinary skill in the art to obtain a composition having a high gas barrier property of the present invention by combining an epoxy resin with glycidylamine moiety derived from metaxylylenediamine of Huang et al. and a composition obtained by the reaction of carboxylic acid and unreacted xylylenediamine in the case of $n=0$ in Nishimura's general formula (I), **even including the contradictory description**, instead of the polyamine represented by the general formula (II) obtained by the reaction which is preferable in Nishimura et al.

Claims 43-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not appear to teach or disclose the claimed composition in the multilayered laminates as claimed.

The objection is overcome by the filing of the terminal disclaimer over 10/488,684, which obviates the obviousness-type double patenting rejection of claim 38, the base claim for claims 43-46.

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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosure: Terminal Disclaimer

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